

# 1. SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY/UNDERTAKING

#### 1.1 Product identifier

#### Relevant identified uses of the substance or mixture and uses advised against 1.2

Identified use Professional: End use of mixtures containing for manufacturing of dental prosthesis. expanding or repairing dental prosthesis, manufacturing of dental regulators and individually formed impression trays.

Uses advised against Mixtures containing unreacted liquid monomer intended to come into contact with skin or nails.

Refer to Exposure Scenario Annex for further details.

#### 1.3 Details of the supplier of the safety data sheet

Vertex-Dental B.V. P.O. Box 10 3700 AA Zeist The Netherlands info@vertex-dental.com

Emergency telephone number: +31 30 6976749 (only available during office hours)

# 2. SECTION 2: HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

According to Regulation (EG) Nr. 1272/2008 [CLP].	
Flammable Liquid Category 2	H225
Skin corrosion / irritation Category 2	H315
Skin sensitization Category 1	H317
STOT-single exposure Category 3	H335
For full text of H phrases see section 16	

#### 2.2 Label elements



Signal word Danger Hazard statement(s) H225 Highly flammable liquid and vapour. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H335 May cause respiratory irritation. P210 Keep away from heat, sparks, open flame, hot surfaces - No smoking Precautionary statement(s) P261 Avoid breathing vapours. P280 Wear protective gloves/protective clothing/eye protection/face protection P302+P352 IF ON SKIN: Wash with plenty of soap and water. P501 Dispose of contents/container to hazardous waste in accordance with local, state or national legislation. Incinerate under approved controlled conditions, using incinerators suitable for the disposal of flammable organics.



#### 2.3 Other hazards

Not classified as PBT or vPvB.

# **SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

#### 3.1 Substances

This product is a mixture.

#### 3.2 Mixtures

Substances in the product which may present a health or environmental hazard, or which have been assigned occupational exposure limits, are detailed below.

Hazardous ingredient(s)	%W/W	EC-No.	Hazard Class and Category Code(s)	Hazard statement Code (s)
Plasticizer	> 80	201-067-0	-	-
Methyl Imethacrylate	< 20	201-297-1	Flam. Liq. 2 Skin Irrit. 2 Skin Sens. 1 STOT SE 3	H225 H315 H317 H335
Ethylenglycol dimethacrylate	< 5	202-617-2	Skin Sens. 1 STOT SE 3	H317 H335

According to Regulation (EG) Nr. 1272/2008 [CLP].

## **SECTION 4: FIRST AID MEASURES**

### 4.1 Description of first aid measures

- Inhalation IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTRE or doctor if you feel unwell.
- Skin Contact IF ON SKIN (or hair): Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical attention. Take off contaminated clothing and wash before reuse.
- Eye Contact IF IN EYES: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.

Ingestion Do not induce vomiting. Rinse mouth. Get immediate medical attention.

- **4.2 Most important symptoms and effects, both acute and delayed** Causes skin irritation. May cause respiratory irritation. May cause an allergic skin reaction.
- **4.3** Indication of the immediate medical attention and special treatment needed None necessary.

# **SECTION 5: FIRE-FIGHTING MEASURES**

#### 5.1 Extinguishing media

Suitable Extinguishing Media

In case of fire, use water spray, foam, dry powder or CO2 for extinction. Keep containers cool by spraying with water if exposed to fire.

#### 5.2 Special hazards arising from the substance or mixture

Highly flammable liquid and vapour. May polymerise on heating. Sealed containers may rupture explosively if hot.

#### 5.3 Advice for fire-fighters

A self-contained breathing apparatus and suitable protective clothing should be worn in fire conditions.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**6.1 Personal precautions, protective equipment and emergency procedures** Eliminate sources of ignition. Wear protective gloves and eye/face protection. Avoid breathing vapours. See section: 8.

#### 6.2 Environmental precautions

Avoid release to the environment. Spillages or uncontrolled discharges into watercourses must be alerted to the appropriate regulatory body

#### 6.3 Methods and material for containment and cleaning up

Collect spillage. Do not adsorb onto sawdust or other combustible materials. Transfer to a lidded container for disposal or recovery. Use only non-sparking tools.

6.4 Reference to other sections

See section: 8. 13

## SECTION 7: HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

Do not eat, drink or smoke at the work place. Wash thoroughly after handling. Avoid breathing vapours. Use only outdoors or in a well-ventilated area. The vapour is heavier than air; beware of pits and confined spaces. Ground container and receiving equipment. Use explosion proof electrical equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

#### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up. Keep away from heat, sparks, open flame, hot surfaces – No smoking. Protect from sunlight. IMPORTANT: Methacrylates stored in bulk must be kept in contact with air (oxygen). Monomer vapours are uninhibited and may form polymers in vent or flame arresters, resulting in blockage of vents. Storage temperature preferably not exceeding 25°C

### **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

#### 8.1 Control parameters

Substance	EC No.	LTEL ppm (8 Hr TWA)	LTEL mg/m <sup>3</sup> (8 Hr TWA)	STEL ppm	STEL mg/m <sup>3</sup>	Notes
Methyl Methacrylate	201-297-1	50	208	100	416	WEL, IOELV

DNEL	Oral	Inhalation	Dermal
Worker – Long Term – Local effects	1	210 mg/m <sup>3</sup>	1,5 mg/cm <sup>2</sup>
Worker – Long Term – Systemic effects	1	210 mg/m <sup>3</sup>	13,67 mg/kg body weight/day
Worker – Short Term – Local effects	1	2	1,5 mg/cm <sup>2</sup>
Worker – Short Term – Systemic effects	1	2	3
Consumer – Long Term – Local effects	1	105 mg/m <sup>3</sup>	1,5 mg/m <sup>2</sup>
Consumer – Long Term – Systemic effects	1	74,3 mg/m <sup>3</sup>	8,2 mg/kg body weight/day
Consumer – Short Term – Local effects	1	2	1,5 mg/cm <sup>2</sup>
Consumer – Short Term – Systemic effects	1	2	3

	PNEC
Aquatic Compartment	0,94 mg/l (Fresh water) 0,094 mg/l (Sea water) 5,74 mg/kg dry weight (sediment)
Terrestrial Compartment	1,47 mg/kg dry weight

<sup>1</sup> Oral toxicity: DNEL not established

<sup>2</sup> Long term DNEL is protective of effects resulting from short term exposure

<sup>3</sup> Dermal toxicity: DNEL not established

#### 8.2 Exposure controls

Appropriate engineering controls

Do not eat, drink or smoke at the work place. Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded. Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

Individual protection measures, such as personal protective equipment (PPE)

Wear eye/face protection.
Safety spectacles/goggles/full face shield.
Wear suitable gloves.
The most appropriate glove depends on consideration of a number of factors including the physical strength of the glove, the degree of manual dexterity required, the amount of permeation through the glove material and the duration of wear. There are a wide variety of elastomeric and laminate gloves available. Common elastomeric glove material include latex (natural rubber), neoprene (poly isoprene), nitrile rubber (ABS rubber), butyl rubber, polyvinyl alcohol (PVA), polyvinyl chloride (PVC) and fluoroelastomers. Laminate gloves are made from heat sealed sheets of PVA between layers of polyethylene. In permeations tests PVA/Polyethylene laminate and supported PVA gloves performed best (note that PVA can be rendered ineffective by contact with water if the laminate layer is breached). Butyl and nitrile rubber gloves offer short-term protection. Later surgical gloves offer little protection. Gloves should be stored correctly and changed regularly,
especially if excessive exposure has occurred.
Wear suitable respiratory protective equipment if engineering controls are insufficient, or not present, and exposure to levels above the DNEL is likely. A suitable mask with filter type A (EN141 or EN405) may be appropriate.



Other

Keep working clothes separately. Take off contaminated clothing immediately. Keep away from food, drinks and animal feed.

Environmental exposure controls Ensure effective control measures when working within the boundaries as specified in section 6.2 of each GES.

# **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

#### 9.1 Information on basic physical and chemical properties

Form Colour Odour pH Melting point Boiling point Flash point Flammable Limits (lower) Flammable Limits (lower) Flammable Limits (Upper) Vapour pressure Solubility (Water) Solubility (Water) Solubility (Other) Auto ignition temperature Explosive properties Oxidising properties Relative density	Liquid Clear/colourless Ester like, characteristic strong and acric Not applicable -48 °C 100,5 °C 10 °C 2,1 % v/v 12,5 % v/v 3.600 Pa at 20 °C Slightly soluble. 1,6 % at 20 °C Miscible with most organic solvents 421 °C Not applicable Not applicable 0,94 (Water = 1) at 15,5 °C
Relative density	0,94 (Water - 1) at 15,5 C

### 9.2 Other information

Minimum Ignition Energy (mJ) 0,89 – 0,97 at 23 °C

# SECTION 10: STABILITY AND REACTIVITY

#### 10.1 Reactivity

Will exothermically polymerise in the presence of initiators.

## 10.2 Chemical stability

Stable in the presence of inhibitor.

#### **10.3 Possibility of hazardous reactions** Susceptible to polymerisation initiated by prolonged storage or the presence of catalyst.

#### 10.4 Conditions to avoid Heat and direct sunlight.

#### **10.5** Incompatible materials Polymerisation catalysts, such as peroxy or azo compounds, strong acids, alkalis and oxidising agents. Oxides and salts of transition metals. Organic Nitrogen containing compounds.

### 10.6 Hazardous Decomposition Product(s)

Does not decompose up to auto-ignition temperature.



# SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

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(Based on MMA)	
Ingestion Ingestion toxicity data Ingestion STOT-single exposure	Low oral toxicity, but ingestion may cause irritation of the gastrointestinal tract. LD50 (Oral) > 5000 mg/kg Not applicable.
Inhalation Inhalation toxicity data Inhalation STOT-single exposure	May cause respiratory irritation. May cause drowsiness or dizziness. LC50 (vapour) 7093 pp, (29,8 mg/l)(4hr) Exposure to high concentrations may produce adverse effects on the nasal epithelium.
Skin Contact	May cause an allergic skin reaction. Causes skin irritation. Repeated and/or prolonged contact may cause dermatitis.
Skin contact toxicity data Skin contact STOT-single exposure	LD50 (dermal) > 5000 mg/kg Not applicable.
Eye Contact Eye contact toxicity data Eye STOT-single exposure	High vapour concentration will cause irritation. Slight irritant to rabbit eyes. (OECD 405) Not applicable.
Aspiration hazard data	Not an aspiration hazard.
Sensitization Skin sensitization data	Skin sensitization has been reported in studies with guinea pigs. (OECD 406)
Respiratory sensitization data	Not a respiratory sensitizer. Irritant to the respiratory system and high concentrations may aggravate pre-existing conditions.
<u>CMR effects (</u> carcinogenicity, mutage Carcinogenicity data Germ cell mutagenicity data	nicity and toxicity for reproduction) <u>.</u> No evidence of carcinogenicity. (OECD 451) Salmonella typhimurium (TA1535, 153, 97, 98, 100) negative (OECD 71).
	Teratogenic and fetotoxic effects only observed in presence of maternal toxicity. NOAEC (Mouse) = 9.000 ppm NOAEC (Rat) > 2.028 ppm
Repeated exposure toxicity	
Chronic exposure	Repeated exposure to high levels produces adverse effects on the heart, lungs, liver and kidneys. Repeated exposure of animals by inhalation to levels at or above the occupational exposure level produces adverse effects on the nasal epithelium (levels of 100 and 40ppm). There is no reason to believe that Methyl Methacrylate represents a carcinogenic or mutagenic hazard to man based upon evidence from well conducted animal studies, relevant mutagenicity studies and adequate epidemiology studies in relevant cohorts. Recent studies in animals have shown that high exposures do not produce embryo or foetoxic nor teratogenic effects in the presence of maternal toxicity.
STOT – repeated exposure data	NOEL (oral)(rat)(104 weeks) > 2000 pm NOAEC (inhalation)(rat)(104 weeks) 100 ppm (OECD 453) NOAEC (inhalation)(mouse)(14 weeks) 1000 ppm (OECD 412)



# SECTION 12: ECOLOGICAL INFORMATION

### 12.1 Toxicity

Low toxicity to fish. MMA (100%) LC50 (fish)(typically) > 100 mg/l MMA (100%) LC50 (fathead minnow)(96 hour)(static) 130 mg/l EGDMA (100% LC50 (Brachydanio rerio)(96 hour)(static) 15,95 mg/l Harmful to aquatic invertebrates. MMA (100%) EC50 (Daphnia magna)(48 hour) 69 mg/l EGDMA (100%) EC50 (Daphnia magna)(48 hour) 44,9 mg/l Low toxicity to algae MMA (100%) EC50 (Selenastrum capricornutum)(96 hour) 170 mg/l MMA (100%) NOEC (zebra fish)(35 days)(flow through) 8,4 mg/l EGDMA (100%) OESO 201 (GLP)(48 hour) 19 mg/l The product is substantially removed in biological treatment processes.

# 12.2 Persistence and degradability

Readily biodegradable: MMA (100%) Chemical Oxygen Demand (COD): 88% (28 days) EGDMA (100%) Chemical Oxygen Demand (COD): > 71% (28 days) Inherent Biodegradation: MMA (100%) Dissolved Organic Carbon Removal (DOC removal): > 95% (28 days)

#### 12.3 Bioaccumulative potential

The product has low potential for bioaccumulation.

# 12.4 Mobility in soil

The products is predicted to have high mobility in soil

- **12.5 Results of PBT and vPvB assessment** Not classified as PBT or vPvB.
- 12.6 Other adverse effects Not subject to international restrictions.

# **SECTION 13: DISPOSAL CONSIDERATIONS**

Avoid release to the environment. Decontaminate empty drums before recycling.

#### 13.1 Waste treatment methods

Dispose of contents/container to hazardous waste in accordance with local, state or national legislation. Incinerate under approved controlled conditions, using incinerators suitable for the disposal of flammable organics.

# **SECTION 14: TANSPORT INFORMATION**

- **14.1 UN-Number** UN 1247
- 14.2 UN Proper Shipping Name METHYL METHACRYLATE MONOMER, STABILIZED



### 14.3 Transport hazard class(es)

Class	3
IMDG-Class	3
IMDG EMS	F-E, S-D
IATA	3
ADR-Classification Code	F1
ADR HIN	339
ADR-Transport Category	2
Tunnel Restriction Code	D/E
RID	3
AND	3
UK CDG Road: Emergency Action Code	3YE

- 14.4 Packing group
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- 14.5 Environmental hazards Not classified as a Marine Pollutant.
- **14.6** Special precautions for user No special requirements.
- **14.7** Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

# **SECTION 15: REGULATORY INFORMATION**

**15.1** Safety, health and environmental regulations/legislation specific for the substance or mixture Regulation (EC) No 1272/2008 (Classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 107/2006. Directive 2009/161/EU (third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Commission Directive 200/39/EC).

#### 15.2 Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for Methyl Methacrylate.

# **SECTION 16: OTHER INFORMATION**

This Safety Data Sheet was prepared in accordance with EC Regulation (EC) No. 453/2010.

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of publication. The information given is designed only as guidance or safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text.

The values mentioned in section 8 of this datasheet are based on the invalid values in The Netherlands. Other countries may apply other values.

LEGEND

Note: Not all of the following are necessarily contained in this Safety Data Sheet:folgenden Angaben:

IOELV:	Indicative Occupational Exposure Limit Value.
WEL:	Workplace Exposure Limit.
Bmgv:	Biological Monitoring Guidance Value.
Sen:	Capable of causing respiratory sensitization.



SAFETY DATA SHEET

Can be absorbed through skin.
Capable of causing cancer and/or heritable genetic damage.
Chemical Hazard Alert Notice.
The company aims to control exposure in its workplace to this limit.
Long Term Exposure Limit.
Short Term Exposure Limit.
Time Weighted Average.
Specific Target Organ Toxicity – Single Exposure.
Reproductive toxicity.
Hazardous to the aquatic environment.

#### Full text of H/P/R phrases

- H225 Highly flammable liquid and vapour.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H335 May cause respiratory irritation.
- P210 Keep away from heat, sparks, open flame, hot surfaces No smoking.
- P233 Keep container tightly closed.
- P240 Ground/bond container and receiving equipment.
- P241 Use explosion-proof electrical/ventilating/lighting/.../ equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P261 Avoid breathing vapours.
- P264 Wash (hands and exposed skin) thoroughly after handling.
- P271 Use only outdoors or in a well-ventilated area.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
- P303 + P361 + P353 IF ON SKIN (of hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P312 Call a POISON CENTRE of doctor if victim feels unwell.
- P321 Specific treatment (see on this label).
- P332 + P313 If skin irritation occurs: Get medical advice/attention.
  P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
- P362 Take off contaminated clothing and wash before reuse.
- P363 Wash contaminated clothing before reuse.
- P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
- P403 + P235 Store in a well-ventilated place. Keep cool.
- P405 Store locked up.
- P501 Dispose of contents/container to hazardous waste in accordance with local, state or national legislation. Incinerate under approved controlled conditions, using incinerators suitable for the disposal of flammable organics.

This is the end of SDS ID: M-SN-2015-04-UK